

WHAT IS CLAIMED AS NEW AND IS INTENDED TO BE SECURED BY LETTERS
PATENT IS:

50 1. A polyurea, comprising the reaction product of isophorone diisocyanate (IPDI),
hexamethylene diisocyanate (HDI), isocyanurates thereof and combinations of these
materials with amines, the polyurea having a NCO/NH₂ ratio of 0.9 to 1.1 to 1 and an average
molecular weight of at least 5000.

2. The polyurea as claimed in Claim 1, prepared from IPDI and isophorone diamine
(IPD).

10 3. The polyurea as claimed in Claim 1, prepared from the isocyanurate of the IPDI
and IPD.

4. The polyurea as claimed in Claim 1, prepared by reacting a mixture of IPDI and
IPDI isocyanurate with IPD.

5. The polyurea as claimed in Claim 1, prepared by reacting HDI and IPD.

15 6. The polyurea as claimed in Claim 1, prepared by reacting the isocyanurate of HDI
and IPD.

7. The polyurea as claimed in Claim 1, prepared by reacting a mixture of HDI and
HDI isocyanurates with IPD.

8. The polyurea as claimed in Claim 1, prepared by reacting a mixture of IPDI
isocyanurate and HDI isocyanurate with IPD.

20 9. The polyurea as claimed in Claim 1, which is solid and is insoluble in solvents.

100 10. A process for preparing polyureas as claimed in Claim 1, comprising:
reacting IPDI, HDI, their isocyanurates and mixtures thereof with amines in a

solvent, to which isocyanate also diluted optionally with a solvent, is added with stirring;
heating the reaction medium for 2 to 3 hours in refluxing solvent and then cooling the
reaction medium; and
separating the resulting polymer and then drying the polymer for 3 to 6 hours at 130
to 170°C in a vacuum.

11. A method of preparing paint, comprising:
formulating the paint with the polyurea as claimed in Claim 1 as a component of the
paint.

12. A method of preparing lacquers and coatings, comprising:
formulating the lacquers and coatings with the polyurea as claimed in Claim 1 as a
component of the lacquers and coatings.